9.0 Improvement Recommendations

Columbia County has received significant growth over the last two decades. This growth is expected to continue and the transportation infrastructure of the County needs to be maintained and enhanced to accommodate this growth. Columbia County's needs for transportation improvements are supported by the deficiencies identified in Section 6.0. These deficiencies include:

- Capacity;
- Safety;
- Bicycle and Pedestrian;
- Transit; and,
- Bridges.

Several transportation projects were developed in Section 8.0, which address these deficiencies. This section will identify the recommended improvements and the estimated costs associated with these improvements.

9.1 Estimated Costs

An important element of the LRTP is estimating the costs associated with the numerous recommended improvements. It will not be feasible for Columbia County to do every improvement recommended in the LRTP. This is one reason the recommended improvements were previously ranked, to establish a priority. Now an estimated cost needs to be associated with each project to aid the County in planning and funding of the recommended improvements.

The estimated costs were conducted for planning purposes and may be higher or lower than actual costs. **The cost of right of way was omitted from the cost estimate due to the high variation associated with this cost.** Therefore, the estimated costs can be expected to be considerably less than actual costs. Additional variations in cost could be the result of several factors, such as, design, utility relocation or environmental impacts.

Estimating recommended project costs is an extremely important part of the planning process. In order to accurately calculate project costs it is useful to obtain historic cost estimates for various types of projects. It was not possible to review bid tabulations for enough projects to get a representative sample of project costs for various types of components including: left turn lane, right turn lane, median openings, roadway widening, signals, bicycle and pedestrian facilities, bridges and other transportation improvements. These reviews resulted in the estimated costs for types of improvements:

- Typical Left Turn Lane - $121,200
- Typical Right Turn Lane – $17,900
- Typical Type A Median Opening - $85,400

- Typical Type B Median Opening - $127,000
- Typical Type C Median Opening - $226,900
- Typical widening from 2 to 4 Lanes - $2,821,800

To further supplement this data, research of other state DOT's was conducted to determine whether planning level cost estimates were available for various types of improvements. The most detailed planning level cost estimates were available from the Florida Department of Transportation (FDOT). It was found that the FDOT summarizes bid tabulations for all projects and this information is available for each pay item. This results in an extensive reference of costs from the state for all area types (urban, rural, suburban). This information was taken by FDOT to develop planning level cost estimates for typical transportation improvements. This information is presented in the following section. This approach was determined to be more accurate than using selected bid tabulations and selectively applying limited cost information.

The costs were estimated in present (2002) dollars and do not reflect inflation. The following tables (Table 9.1.1 to Table 9.1.5) establish the elements used for estimating the improvement costs.

Table 9.1.1
State and County Urban Roadway Improvement Unit Costs
in millions of dollars per centerline mile (2002)

	2 Lane	2 Lane Divided	2 Lane	4 Lane One-Way	4 Lane	4 Lane Divided	4 Lane	6 Lane Divided	6 Lane Freeway	8 Lane Freeway
None	2.8218	2.8218	2.8218	3.3051	3.3051	4.2732	4.7651	4.9463	5.7061	6.2787
2 Lane Undivided	x	x	x	x	2.8129	2.8129	x	x	x	x
2 Lane Divided	x	x	x	x	2.8129	2.8129	x	x	x	x
2 Lane One-Way	x	x	x	2.8129	x	x	x	x	x	x
4 Lane Undivided	x	x	x	x	x	x	x	2.7546	3.2321	x
4 Lane Divided	x	x	x	x	x	x	x	2.7546		x
4 Lane Freeway	x	x		x	x	x	x	x		x
6 Lane Freeway	x	x		x	x	x	x	x	x	3.7342

Source: FDOT, "2002 Transportation Costs."
Notes: (1) Figures are for 2002 construction costs for one centerline mile of roadway including structures up to 20 feet in length; they may not be comparable to prior year figures in all cases
(2) These figures exclude costs for intersections/interchanges/structures over 20 feet, right-of-way, landscaping, traffic signals, preliminary engineering, and construction engineering inspection.
(3) The cost per centerline mile figures are based on general, statewide averages. They are not to be used for Work Program estimating because they are not job specific.

Table 9.1.2
State and County Rural Roadway Improvement Unit Costs
in millions of dollars per centerline mile (2002)

	2 Lane Undivided	4 Lane Undivided	4 Lane Divided	4 Lane Freeway	6 Lane Divided	6 Lane Freeway
None	2.1723	3.3177	3.2407	4.0186	4.0980	4.8589
2 Lane Undivided	x	2.3816	2.3816	x	x	x
4 Lane Freeway	x	x	x	x	2.6522	3.1457

Source: FDOT, "2002 Transportation Costs."
Notes: (1) Figures are for 2002 construction costs for one centerline mile of roadway including structures up to 20 feet in length; they may not be comparable to prior year figures in all cases
(2) These figures exclude costs for intersections/interchanges/structures over 20 feet, right-of-way, landscaping, traffic signals, preliminary engineering, and construction engineering inspection.
(3) The cost per centerline mile figures are based on general, statewide averages. They are not to be used for Work Program estimating because they are not job specific.

Table 9.1.3
State Roadway Maintenance Costs (2002)

Maintenance Category	2 Lanes $/C/L mile	4 Lanes $/C/L mile	6 Lanes $/C/L mile	$/C/L mile
State Urban Roads				
Milling and Resurfacing, Curb to Curb	$422,100	x	x	x
Milling and Resurfacing (Arterial), Curb to Curb with 12' Auxiliary Lanes	x	$541,200	$718,200	$1,081,600
Milling and Resurfacing (Interstate) With 10' Paved Shoulders	x	$785,200	$1,157,500	$1,226,200
Routine Maintenance (Annual)	$26,300	$58,500	$115,000	$129,400
State Rural Roads				
Milling and Resurfacing with 5' Paved Shoulders	$477,800	x	x	x
Milling and Resurfacing (Arterial) With 5' Paved Shoulders, with 12' Auxiliary Lanes	x	$686,900	$836,800	$1,115,200
Milling and Resurfacing (Interstate) With 10' Paved Shoulders	x		$1,001,300	$1,220,100
Routine Maintenance (Annual)	$21,700		$60,800	

Source: FDOT, "2002 Transportation Costs."

Table 9.1.4
Unit Costs for Bicycle Facilities (2002)

Bicycle Facilities	Unit Cost
Bike Path Per Mile (12' Width), R & R Conversion	$467,000
Bike Lane Per Mile (5' Width, 2 sides), Pavement Extension	$622,000
Paved Shoulders Per Mile (5' Width, 2 sides), Rural	
Bike Lockers (for 2 bicycles)	$3,200

Source: FDOT, "2002 Transportation Costs."

Table 9.1.5
Unit Costs for Pedestrian Facilities (2002)

Pedestrian Facilities	Unit Cost
Sidewalks Per Mile (4 inch depth)	
5' Width, 1 side	$157,000
6' Width, 1 side	$189,000
Pedestrian Overpass with Enclosure (per square foot)	
Brickwork (per square yard)	
Roadway	$90
Sidewalk	$40
"Walk/Don't Walk" Signal System	
Signal head (each)	$350
Activator (each)	$105
Two Corners (four of each unit above)	$1,900
Four Corners (eight of each unit above)	$3,900
Raised Island/Refuge Island	
Type "D" Curb (per linear foot)	
4-Inch Sidewalk Fill (per square yard)	$19
Handicap Curb Ramp (concurrent with construction)	$0

Source: FDOT, "2002 Transportation Costs."

Tables 9.1.1 through 9.1.5 were used to estimate costs for the recommended improvements found in Table 9.1.6. These costs should be considered preliminary in nature and taken with appropriate care. Costs do not include right of way. More detailed engineering studies are required to identify highly accurate cost estimates.

Table 9.1.6
Corridor Project Cost Estimates

Project Ref. No.	Roadway and Limits			Length (C/L mi)	Existing Facility Description / Configuration	Roadway Costs													Enhancement Features						Roadway + Enhancement ($'s, Millions 2002)	Additional Engineering Costs			Additional Eng. Costs Sub-Total ($'s, Millions 2002)	TOTAL ($'s, Millions 2002)
						Descriptive Elements												($'s,	Descriptive Elements												
	Facility	To	From			State (S) or County (C)	Urban (U) or Rural (R)	New (N) or Improved (I)	Existing Condition (None, 1U, 2U, 2O, 4U, 4D, 6U)	# of Lanes Upon Completion	Unit Cost/Mile ($'s, Millions 2002)	# of Intersections	COST of Intersections ($'s Millions 2002)	# of Interchanges	COST of Interchanges ($'s Millions 2002)	Miles of Bridges	COST of Bridges ($'s Millions 2002)	*Roadway Subtotal Millions 2002)*	Sidewalk Projects One (1) or Both (2)	Sidewalk Costs ($'s Millions 2002)	Bikeway Projects w/Shldr (C) or Sep (S)	Bikeway Costs ($'s Millions 2002)	Landscaping ($'s Millions 2002)	*Enhancement Subtotal ($'s, Millions 2002)*		Preliminary Engineering ($'s Millions 2002)	Maintenance/Operation ($'s Millions 2002)	CEI ($'s Millions 2002)		
	2007 Deficient Segments																													
1	Columbia Rd	Old Belair Rd	Belair Rd	1.53	2	S	R	I	2U	4	2.3816	2	0.286	0	0.000	0	0.000	*3.930*	2	0.578	C	0.000	0.025	*0.603*	4.533	0.739	0.007	0.893	*1.639*	6.172
2	Flowing Wells Rd	I-20	Washington Rd	1.52	2	C	R	I	2U	4	2.3816	3	0.429	0	0.000	0	0.000	*4.049*	2	0.575	C	0.000	0.025	*0.600*	4.648	0.758	0.007	0.916	*1.680*	6.328
3	Fury's Ferry Rd	Hardy McManus Rd	Evans to Locks Rd	0.52	2	S	R	I	2U	4	2.3816	2	0.286	0	0.000	0	0.000	*1.512*	2	0.195	C	0.000	0.025	*0.220*	1.732	0.282	0.002	0.341	*0.626*	2.358
4	Gibbs Rd-Cox Rd-Owens Rd	Washington Rd	Washington Rd	3.80	2	C	R	I	2U	4	2.3816	4	0.571	0	0.000	0	0.000	*9.622*	2	1.436	C	0.000	0.025	*1.461*	11.083	1.807	0.017	2.183	*4.007*	15.090
5	Hereford Farm Rd	Belair Rd	Gibbs Rd	1.29	2	C	R	I	2U	4	2.3816	2	0.286	0	0.000	0	0.000	*3.358*	2	0.488	C	0.000	0.025	*0.513*	3.871	0.631	0.006	0.763	*1.399*	5.270
6	Horizon South Pkwy	I-20	Wrightsboro Rd	1.93	2	S	R	I	2U	4	2.3816	2	0.286	0	0.000	0	0.000	*4.882*	0	0.000	0	0.000	0.025	*0.025*	4.907	0.800	0.009	0.967	*1.775*	6.682
7	I-20 WB Off-Ramp	at Belair Rd, Lewiston Rd, and Appling Harlem Rd		0.15	1	S	R	I	1U	2	2.1723	1	0.143	0	0.000	0	0.000	*0.469*	0	0.000	0	0.000	0.025	*0.025*	0.494	0.080	0.001	0.097	*0.178*	0.672
8	I-20 EB On-Ramp	at Belair Rd, Lewiston Rd, and Appling Harlem Rd		0.15	1	S	R	I	1U	2	2.1723	1	0.143	0	0.000	0	0.000	*0.469*	0	0.000	0	0.000	0.025	*0.025*	0.494	0.080	0.001	0.097	*0.178*	0.672
9	I-20	Appling Harlem Rd	Belair Rd	10.76	4	S	R	I	4D	6	2.7546	0	0.000	3	23.400	0	0.000	*53.039*	0	0.000	0	0.000	0.025	*0.025*	53.064	8.650	0.048	10.454	*19.151*	72.215
10	Lewiston Rd	Columbia Rd	I-20	1.78	2	C	R	I	2U	4	2.3816	2	0.286	0	0.000	0	0.000	*4.525*	0	0.000	0	0.000	0.025	*0.025*	4.550	0.742	0.008	0.896	*1.646*	6.196
11	North Belair Rd	Fury's Ferry Rd	Washington Rd	2.50	2	C	R	I	2U	4	2.3816	3	0.429	0	0.000	0	0.000	*6.383*	2	0.945	C	0.000	0.025	*0.970*	7.353	1.198	0.011	1.448	*2.658*	10.011
12	Old Evans Rd	Martinez Blvd	Washington Rd	0.13	2	C	R	I	2U	4	2.3816	2	0.286	0	0.000	0	0.000	*0.595*	2	0.049	C	0.000	0.025	*0.074*	0.669	0.109	0.001	0.132	*0.242*	0.911
13	Old Evans Rd	Washington Rd	Old Petersburg Rd	1.26	2	C	R	I	2U	4	2.3816	3	0.429	0	0.000	0	0.000	*3.429*	2	0.476	C	0.000	0.025	*0.501*	3.931	0.641	0.006	0.774	*1.421*	5.351
14	Washington Rd	William Few Pkwy	Belair Rd	4.07	2	S	R	I	2U	4	2.3816	4	0.571	0	0.000	0	0.000	*10.265*	2	1.538	C	0.000	0.025	*1.563*	11.828	1.928	0.018	2.330	*4.276*	16.104
15	William Few Pkwy Connector	William Few Pkwy	Hereford Farm Rd	2.80	0	C	R	N	None	2	2.1723	3	0.429	0	0.000	0	0.000	*6.511*	2	1.058	C	0.000	0.025	*1.083*	7.594	1.238	0.012	1.496	*2.746*	10.341
16	William Few Pkwy Extension	Washington Rd	Hardy McManus Rd	1.03	0	C	R	N	None	2	2.1723	2	0.286	0	0.000	0	0.000	*2.523*	2	0.389	C	0.000	0.025	*0.414*	2.938	0.479	0.005	0.579	*1.062*	4.000
17	Wrightsboro Rd	Reynolds Rd	Richmond County Boundary	1.88	2	S	R	I	2U	4	2.3816	2	0.286	0	0.000	0	0.000	*4.763*	2	0.711	C	0.000	0.025	*0.736*	5.499	0.896	0.008	1.083	*1.988*	7.487
18	SR 47 SB	N of Ridge Rd (MP 2.45)	N of Keg Creek Dr (MP 3.88)	1.43	2	S	R	I	2U	3	2.3816	0	0.000	0	0.000	0	0.000	*3.406*	0	0.000	0	0.000	0.025	*0.025*	3.431	0.559	0.006	0.676	*1.241*	4.672
	2012 Deficient Segments																													
19	Columbia Rd	William Few Pkwy	Hereford Farm Rd	2.02	2	S	R	I	2U	4	2.3816	2	0.286	0	0.000	0	0.000	*5.097*	2	0.764	C	0.000	0.025	*0.789*	5.885	0.959	0.009	1.159	*2.128*	8.013
20	Hereford Farm Rd	Columbia Rd	Gibbs Rd	4.36	2	C	R	I	2U	4	2.3816	3	0.429	0	0.000	0	0.000	*10.812*	2	1.648	C	0.000	0.025	*1.673*	12.485	2.035	0.019	2.460	*4.514*	16.999
21	Old Petersburg Rd	Old Evans Rd	Baston Rd	2.00	2	C	R	I	2U	4	2.3816	2	0.286	0	0.000	0	0.000	*5.049*	2	0.756	C	0.000	0.025	*0.781*	5.830	0.950	0.009	1.148	*2.108*	7.938
22	Washington Rd	Old Washington Rd	William Few Pkwy	1.02	2	S	R	I	2U	4	2.3816	2	0.286	0	0.000	0	0.000	*2.715*	0	0.000	0	0.000	0.025	*0.025*	2.740	0.447	0.005	0.540	*0.991*	3.731
23	Wrightsboro Rd	Horizon South Pkwy	Reynolds Rd	2.18	2	S	R	I	2U	4	2.3816	2	0.286	0	0.000	0	0.000	*5.478*	2	0.824	C	0.000	0.025	*0.849*	6.327	1.031	0.010	1.246	*2.287*	8.614
24	SR 47 NB	S of Washington Rd (MP 8.33)	N of Yelton Rd (MP 9.53)	1.20	2	S	R	I	2U	4	2.3816	0	0.000	0	0.000	0	0.000	*2.858*	0	0.000	0	0.000	0.025	*0.025*	2.883	0.470	0.005	0.568	*1.043*	3.926
25	SR 47 NB/SB	N of Columbia Rd (MP 13.48)	N of I-20 (MP 15.18)	1.70	2	S	R	I	2U	4	2.3816	1	0.143	0	0.000	0	0.000	*4.192*	0	0.000	0	0.000	0.025	*0.025*	4.217	0.687	0.008	0.831	*1.525*	5.742
	2025 Deficient Segments																													
26	Appling Harlem Rd	North of I-20	Wrightsboro Rd	1.61	2	S	R	I	2U	4	2.3816	2	0.286	0	0.000	0	0.000	*4.120*	0	0.000	0	0.000	0.025	*0.025*	4.145	0.676	0.007	0.817	*1.499*	5.644
27	Columbia Rd	Hereford Farm Rd	Old Belair Rd	2.03	2	S	R	I	2U	4	2.3816	2	0.286	0	0.000	0	0.000	*5.120*	2	0.767	C	0.000	0.025	*0.792*	5.913	0.964	0.009	1.165	*2.138*	8.050
28	Hereford Farm Rd	Columbia Rd	Blanchard Rd	3.46	2	C	R	I	2U	4	2.3816	2	0.286	0	0.000	0	0.000	*8.526*	2	1.308	C	0.000	0.025	*1.333*	9.859	1.607	0.015	1.942	*3.565*	13.423
29	I-20	McDuffie County Boundary	Appling Harlem Rd	4.96	4	S	R	I	4D	6	2.7546	0	0.000	1	7.800	0	0.000	*21.463*	0	0.000	0	0.000	0.025	*0.025*	21.488	3.503	0.022	4.233	*7.758*	29.245
30	Washington Rd	Scotts Ferry Rd	Old Washington Rd	5.30	2	S	R	I	2U	4	2.3816	2	0.286	0	0.000	0	0.000	*12.908*	0	0.000	0	0.000	0.025	*0.025*	12.933	2.108	0.023	2.548	*4.679*	17.613
31	Wrightsboro Rd	Chamblin Rd	Horizon South Pkwy	1.37	2	S	R	I	2U	4	2.3816	3	0.429	0	0.000	0	0.000	*3.691*	2	0.518	C	0.000	0.025	*0.543*	4.234	0.690	0.006	0.834	*1.530*	5.765
32	SR10/US78 Gordon Highway	Harlem Town	Wrightsboro Rd	5.48	2	S	R	I	2U	4	2.3816	2	0.286	0	0.000	0	0.000	*13.337*	0	0.000	0	0.000	0.025	*0.025*	13.362	2.178	0.024	2.632	*4.834*	18.196
																												SUB-TOTAL		**333.430**
Optional Transportation Demand Management (TDM) Strategies as Alternatives to Roadway Construction/Widening Projects																														
33	Evans to Locks Rd / Stevens Creek Rd	SR 104	Richmond County Line	6.42	2	C	R	I	2U	2	-	4	0.571	0	0.000	0	0.000	*0.571*	0	0.000	0	0.000	0.025	*0.025*	0.596	0.097	0.028	0.117	0.243	0.840
34	Hereford Farm Rd	Belair Rd	Blanchard Rd	2.2	2	C	R	I	2U	2	-	3	0.429	0	0.000	0	0.000	*0.429*	0	0.000	0	0.000	0.025	*0.025*	0.454	0.074	0.010	0.089	0.173	0.627
35	Columbia Rd	Ivy Falls Rd	Old Belair Rd	2.66	2	S	R	I	2U	2	-	2	0.286	0	0.000	0	0.000	*0.286*	0	0.000	0	0.000	0.025	*0.025*	0.311	0.051	0.012	0.061	0.124	0.434
36	Hardy McManus Rd	Halali Farm Rd	Fury's Ferry Rd	2.85	2	C	R	I	2U	2	-	2	0.286	0	0.000	0	0.000	*0.286*	0	0.000	0	0.000	0.025	*0.025*	0.311	0.051	0.013	0.061	0.124	0.435
37	Wheeler Rd	North Belair Rd	Flowing Wells Rd	1.48	2	C	R	I	2U	2	-	2	0.286	0	0.000	0	0.000	*0.286*	0	0.000	0	0.000	0.025	*0.025*	0.311	0.051	0.007	0.061	0.118	0.429
38	South Old Belair Rd	North Belair Rd	Columbia Rd	3.34	2	C	R	I	2U	2	-	2	0.286	0	0.000	0	0.000	*0.286*	0	0.000	0	0.000	0.025	*0.025*	0.311	0.051	0.015	0.061	0.127	0.437
39	Wrightsboro Rd	SR 223	Richmond County Line	4.93	2	S	R	I	2U	2	-	2	0.286	0	0.000	0	0.000	*0.286*	0	0.000	0	0.000	0.025	*0.025*	0.311	0.051	0.022	0.061	0.134	0.444
40	Old Evans Rd / Blue Ridge Rd	SR 104	Evans to Locks Rd	2.53	2	C	R	I	2U	2	-	3	0.429	0	0.000	0	0.000	*0.429*	0	0.000	0	0.000	0.025	*0.025*	0.454	0.074	0.011	0.089	0.174	0.628
41	North Belair Rd	Washington Rd	Fury's Ferry Rd	2.5	2	C	R	I	2U	2	-	3	0.429	0	0.000	0	0.000	*0.429*	0	0.000	0	0.000	0.025	*0.025*	0.454	0.074	0.011	0.089	0.174	0.628
																												SUB-TOTAL		**4.902**

TOTAL 338.332

Legend

U - Undivided
D -Divided
O - One-Way
A- Auxiliary
ln - Lane
CEI - Construction Engineering and Inspection

9.2 Potential Funding Sources

All of the recommended projects are not expected to be funded by Columbia County. Several funding sources will be used to construct as many of the recommended projects as possible. This is usually controlled by the agencies responsible for maintaining and operating the roadway. Most major facilities in Columbia County are either operated by the GDOT or Columbia County. Should the County desire to accelerate projects on state owned and maintained facilities, it is highly likely that local funds could accelerate the process.

Funding for most transportation projects in Columbia County comes either in part or entirely through the GDOT. To understand the ability of GDOT to continue to provide funds to Columbia County is useful to understand the components of GDOT funding. Key components include:

- Federal Title I Apportionments;
- State Motor Fuels Taxes;
- State License Tag Fees;
- State Title Registrations;
- State Motor Carrier Fuels Tax;
- State Personal Property Tax; and,
- Tax Allocation Districts.

While detailed analysis of these funding sources is beyond the scope of this study, it is useful to point out that all of the revenue streams identified as key components of GDOT funding have positive growth rates historically and it is anticipated that they will continue to grow in the future. It is also useful to note that Georgia currently has one of the nations lowest state motor fuels taxes. An increase in this tax could yield substantial revenue to the GDOT.

The most likely funding sources for Columbia County have been divided into the several categories documented below.

Federal and State Funds

- Transportation Enhancement Activities Funds
- State Aid – City/County Contracts
- FTA Non-Urbanized Area Formula Program (Section 5311)

Local Funds

- Local Option Sales Tax (LOST)
- Special Purpose Local Options Sales Tax (SPLOST)
- Development Impacts Fees
- Local Self Taxing Districts (or Community Improvement Districts)

Debt Financing

- General Obligation Bonds

Any or all of these measures may be used to finance selected transportation projects. It is likely that even with the list of identified funding mechanisms, inadequate funding will exist to finance all needed transportation projects. In this situation it may be necessary to increase existing taxes or implement new taxes to augment revenue generation. In selecting an appropriate funding mechanism it is useful to establish criteria to determine what funding approach best meets the needs of Columbia County. While limited information is available some suggested criteria include:

- Equity;
- Economic Efficiency;
- Revenue Potential;
- Political and Public Acceptability; and,
- Applicability.

Columbia County currently has a SPLOST program and is currently in the process of renewing this program and these initiatives can provide substantial funding for transportation improvements. For minor projects such as bicycle and pedestrian enhancements or minor geometric improvements local private entities may wish to contribute funding to accelerate project implementation. Local development impact fees could be used to help pay for bicycle and pedestrian improvements indicated in a county-wide or region-wide bicycle and pedestrian plan.

9.3 Summary of Recommended Improvements

Based on the analysis completed as part of this study, a listing of recommended projects was created for Columbia County. This information is presented in Table 9.3. This listing includes capacity improvements, TDM/TSM improvements, intersection enhancements, bridge improvements, bicycle and pedestrian enhancements and transit recommendations. For each recommendation several information elements were produced including: facility; limits; existing and improved configuration; comments; improvement type; need addressed; anticipated benefit; phasing; cost and potential funding sources. For successful implementation of these projects it is recommended that additional detailed engineering studies be conducted to determine the most appropriate design, cost and phasing of the particular project. Additionally, successful project implementation will include identified funding mechanisms, political support with public recognition of the project need and benefit.

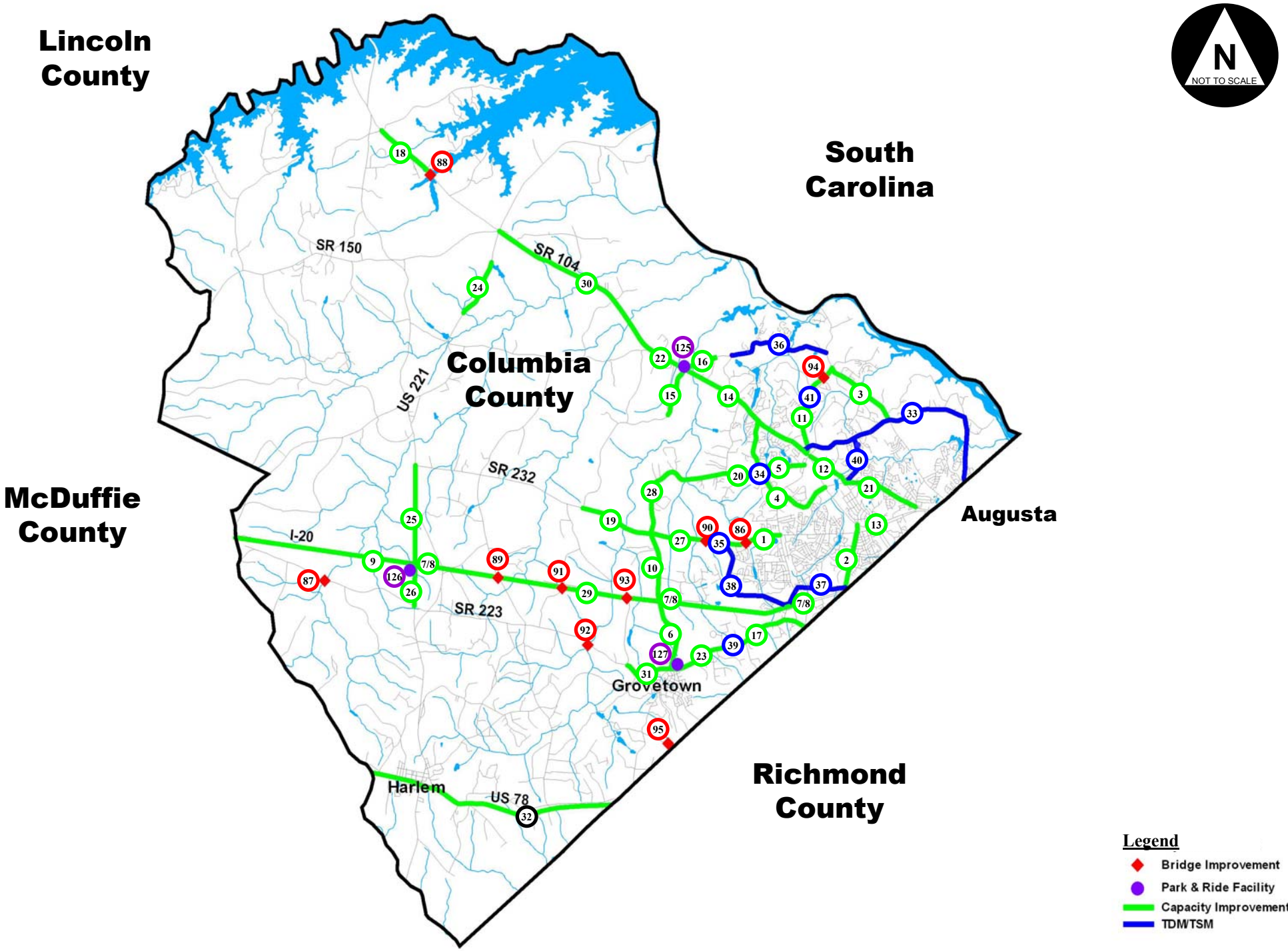
Table 9.3
Recommended Improvements

Project Ref. No.	Facility	Segment Limits From	Segment Limits To	Existing Lane Configuration	Improved Lane Configuration	Notes/Comments	Program	Project	Need	Anticipated Benefit	Implementation Near	Implementation Mid	Implementation Long	Estimated Cost	Potential Funding Source Federal	Potential Funding Source State	Potential Funding Source County	Potential Funding Source Local	Potential Funding Source Private
Capacity Improvements/New Roadways																			
1	Columbia Rd	Old Belair Rd	Belair Rd				STIP	Arterial Widening	Capacity Deficiency	Increased Capacity& Improved Safety	✓			$6,171,514	✓	✓	✓		
2	Flowing Wells Rd	I-20	Washington Rd				STIP	Arterial Widening	Capacity Deficiency	Increased Capacity& Improved Safety	✓			$6,328,229		✓	✓	✓	
3	Fury's Ferry Rd	Hardy McManus Rd	Evans to Locks Rd	2	4		Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity& Improved Safety	✓			$2,357,678		✓	✓	✓	
4	Gibbs Rd-Cox Rd-Owens Rd	Washington Rd	Washington Rd	2	4		Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity/Connectivity	✓			$15,089,560		✓	✓	✓	
5	Hereford Farm Rd	Belair Rd	Gibbs Rd	2	4		Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity& Improved Safety	✓			$5,269,721		✓	✓	✓	
6	Horizon South Pkwy	I-20	Wrightsboro Rd	2	4		Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity& Improved Safety	✓			$6,682,330		✓	✓	✓	
7	I-20 WB Off-Ramp	at Belair Rd, Lewiston Rd, and Appling Harlem Rd		1	2		Recommended	Ramp Widening	Capacity Deficiency	Increased Capacity& Improved Safety	✓			$672,102	✓	✓	✓		
8	I-20 EB On-Ramp	at Belair Rd, Lewiston Rd, and Appling Harlem Rd		1	2		Recommended	Ramp Widening	Capacity Deficiency	Increased Capacity& Improved Safety	✓			$672,102	✓	✓	✓		
9	I-20	Appling Harlem Rd	Belair Rd	4	6		STIP	Freeway Widening	Capacity Deficiency	Increased Capacity& Improved Safety	✓			$72,215,252	✓	✓	✓		
10	Lewiston Rd	Columbia Rd	I-20	2	4		Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity& Improved Safety	✓			$6,195,821		✓	✓	✓	
11	North Belair Rd	Fury's Ferry Rd	Washington Rd	2	4		Work Program	Arterial Widening	Capacity Deficiency	Increased Capacity& Improved Safety	✓			$10,010,554		✓	✓	✓	
12	Old Evans Rd	Martinez Blvd	Washington Rd				Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity& Improved Safety	✓			$911,051		✓	✓	✓	
13	Old Evans Rd	Washington Rd	Old Petersburg Rd				STIP	Arterial Widening	Capacity Deficiency	Increased Capacity& Improved Safety	✓			$5,351,286		✓	✓	✓	
14	Washington Rd	William Few Pkwy	Belair Rd	2	4		Work Program	Arterial Widening	Capacity Deficiency	Increased Capacity& Improved Safety	✓			$16,104,078	✓	✓	✓		
15	William Few Pkwy Connector	William Few Pkwy	Hereford Farm Rd	0	2		Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity/Connectivity	✓			$10,340,782		✓	✓	✓	
16	William Few Pkwy Extension	Washington Rd	Hardy McManus Rd	0	2		Work Program	Arterial Widening	Capacity Deficiency	Increased Capacity/Connectivity	✓			$3,999,590		✓	✓	✓	
17	Wrightsboro Rd	Reynolds Rd	Richmond County Boundary	2	4		Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity& Improved Safety	✓			$7,486,630	✓	✓	✓		
18	SR 47 SB	N of Ridge Rd (MP 2.45)	N of Keg Creek Dr (MP 3.88)	2	3	Passing Lanes	STIP	Passing Lanes	Capacity Deficiency	Increased Capacity& Improved Safety	✓			$4,672,053	✓	✓	✓		
19	Columbia Rd	William Few Pkwy	Hereford Farm Rd				Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity& Improved Safety		✓		$8,012,677	✓	✓	✓		
20	Hereford Farm Rd	Blanchard Rd	Gibbs Rd	2	4		Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity& Improved Safety		✓		$16,999,455		✓	✓	✓	
21	Old Petersburg Rd	Old Evans Rd	Baston Rd				Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity& Improved Safety		✓		$7,937,527		✓	✓	✓	
22	Washington Rd	Old Washington Rd	William Few Pkwy				STIP	Arterial Widening	Capacity Deficiency	Increased Capacity& Improved Safety		✓		$3,730,841	✓	✓	✓		
23	Wrightsboro Rd	Horizon South Pkwy	Reynolds Rd				Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity& Improved Safety		✓		$8,613,873	✓	✓	✓		
24	SR 47 NB	S of Washington Rd (MP 8.33)	N of Yelton Rd (MP 9.53)	2	3	Passing Lanes	Work Program	Passing Lanes	Capacity Deficiency	Increased Capacity& Improved Safety		✓		$3,926,073	✓	✓	✓		
25	SR 47 NB/SB	N of Columbia Rd (MP 13.48)	N of I-20 (MP 15.18)	2	4	Passing Lanes	Work Program	Passing Lanes	Capacity Deficiency	Increased Capacity& Improved Safety		✓		$5,742,059	✓	✓	✓		
26	Appling Harlem Rd	North of I-20	Wrightsboro Rd	2	4		Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity& Improved Safety			✓	$5,644,444		✓	✓	✓	
27	Columbia Rd	Hereford Farm Rd	Old Belair Rd				Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity& Improved Safety			✓	$8,050,251	✓	✓	✓		
28	Hereford Farm Rd	Columbia Rd	Blanchard Rd				Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity& Improved Safety			✓	$13,423,439		✓	✓	✓	
29	I-20	McDuffie County Boundary	Appling Harlem Rd	4	6		Recommended	Freeway Widening	Capacity Deficiency	Increased Capacity& Improved Safety			✓	$29,245,343	✓	✓	✓		
30	Washington Rd	S of CR 515 (MP 8.95)	NW of Pollard's Corner	2	4		Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity& Improved Safety			✓	$17,612,567	✓	✓	✓		
31	Wrightsboro Rd	Chamblin Rd	Horizon South Pkwy	2	4		Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity& Improved Safety			✓	$5,764,608	✓	✓	✓		
32	SR10/US78 Gordon Highway	Harlem Town	SR 223	2	4		Work Program	Arterial Widening	Capacity Deficiency	Increased Capacity& Improved Safety			✓	$18,196,378	✓	✓	✓		
42	Ronald Reagan Dr						SPLOST	Arterial Widening	Capacity Deficiency	Improved Operation and Safety	✓			$1,000,000		✓	✓	✓	
43	Belair Rd	Evans to Locks Rd	Hereford Farm Rd				SPLOST	Arterial Widening	Capacity Deficiency	Improved Operation and Safety	✓			$900,000		✓	✓	✓	
TDM/TSM Improvements																			
33	Evans to Locks Rd / Stevens Creek Rd	Washinton Rd	Richmond County Line	2	2	Corridor 1	Recommended	TDM/TSM Improvements	Operational Deficiencies	Improved Corridor Operation	✓			$839,522		✓	✓	✓	
34	Hereford Farm Rd	Belair Rd	Blanchard Rd	2	2	Corridor 2	Recommended	TDM/TSM Improvements	Operational Deficiencies	Improved Corridor Operation	✓			$626,588		✓	✓	✓	
35	Columbia Rd	Ivy Falls Rd	Old Belair Rd	2	2	Corridor 3	Recommended	TDM/TSM Improvements	Operational Deficiencies	Improved Corridor Operation	✓			$434,331		✓	✓	✓	
36	Hardy McManus Rd	Halali Farm Rd	Fury's Ferry Rd	2	2	Corridor 4	Recommended	TDM/TSM Improvements	Operational Deficiencies	Improved Corridor Operation	✓			$435,171		✓	✓	✓	
37	Wheeler Rd	North Belair Rd	Flowing Wells Rd	2	2	Corridor 5	Recommended	TDM/TSM Improvements	Operational Deficiencies	Improved Corridor Operation	✓			$429,118		✓	✓	✓	
38	South Old Belair Rd	North Belair Rd	Columbia Rd	2	2	Corridor 6	Recommended	TDM/TSM Improvements	Operational Deficiencies	Improved Corridor Operation	✓			$437,335		✓	✓	✓	
39	Wrightsboro Rd	SR 223	Richmond County Line	2	2	Corridor 7	Recommended	TDM/TSM Improvements	Operational Deficiencies	Improved Corridor Operation	✓			$444,360		✓	✓	✓	
40	Old Evans Rd / Blue Ridge Rd	Washington Rd	Evans to Locks Rd	2	2	Corridor 8	Recommended	TDM/TSM Improvements	Operational Deficiencies	Improved Corridor Operation	✓			$628,046		✓	✓	✓	
41	North Belair Rd	Washington Rd	Fury's Ferry Rd	2	2	Corridor 9	Recommended	TDM/TSM Improvements	Operational Deficiencies	Improved Corridor Operation	✓			$627,914		✓	✓	✓	
Intersection Improvements																			
44	Washington Rd	Gibbs Rd					STIP	Intersection Improvements	Operational and Capacity Deficiency	Improved Safety and Capacity	✓			$394,400	✓	✓	✓	✓	✓
45	Pumpkin Center						SPLOST	Intersection Improvements	Operational and Capacity Deficiency	Improved Safety and Capacity	✓			$576,000	✓	✓	✓	✓	✓
46	Stevens Creek Rd	Evans to Locks Rd				30 crashes	SPLOST	Intersection Improvements	Operational and Capacity Deficiency	Improved Safety and Capacity	✓			$400,000	✓	✓	✓	✓	✓
47	Blanchard Rd	Hereford Farm Rd					SPLOST	Intersection Improvements	Operational and Capacity Deficiency	Improved Safety and Capacity	✓			$300,000	✓	✓	✓	✓	✓
48	Blueridge Rd	Evans to Locks Rd					SPLOST	Intersection Improvements	Operational and Capacity Deficiency	Improved Safety and Capacity	✓			$560,000	✓	✓	✓	✓	✓
49	Blanchard Rd	Blanchard Woods Dr					SPLOST	Intersection Improvements	Operational and Capacity Deficiency	Improved Safety and Capacity	✓			$400,000	✓	✓	✓	✓	✓
50	Washington Rd	Goodwill					SPLOST	Intersection Improvements	Operational and Capacity Deficiency	Improved Safety and Capacity	✓			$350,000	✓	✓	✓	✓	✓
51	Old Louisville Rd	Harlem Grovetown Rd					SPLOST	Intersection Improvements	Operational and Capacity Deficiency	Improved Safety and Capacity	✓			$700,000	✓	✓	✓	✓	✓
52	Louisville Road	Wrightsboro Rd					SPLOST	Intersection Improvements	Operational and Capacity Deficiency	Improved Safety and Capacity		✓		$500,000	✓	✓	✓	✓	✓
53	Old Union Rd	Fairview, SR 47					SPLOST	Intersection Improvements	Operational and Capacity Deficiency	Improved Safety and Capacity	✓			$1,445,000	✓	✓	✓	✓	✓
54	Bobby Jones Expy/Old Evans Rd	Washington Rd				128 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity	✓			$464,000	✓	✓	✓	✓	✓
55	Columbia Rd/Ruth St	Washington Rd				103 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity	✓			$464,000	✓	✓	✓	✓	✓
56	Washington Rd	Bobby Jones Expy				102 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity	✓			$464,000	✓	✓	✓	✓	✓
57	Washington Rd	Columbia Rd				93 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity	✓			$464,000	✓	✓	✓	✓	✓
58	Industrial Park Dr/N Belair Rd	Washington Rd				91 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity	✓			$464,000	✓	✓	✓	✓	✓
59	Davis Rd	Washington Rd				88 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity	✓			$464,000	✓	✓	✓	✓	✓
60	Baston Rd	Washington Rd				80 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity	✓			$464,000	✓	✓	✓	✓	✓
61	Columbia Rd	N Belair Rd/S Belair Rd				79 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity	✓			$464,000	✓	✓	✓	✓	✓
62	I-20 WB Ramps	Jimmie Dyess Pkwy/S Belair Rd				79 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity	✓			$464,000	✓	✓	✓	✓	✓
63	S Belair Rd	S Old Belair Rd/Wheeler Rd				76 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity	✓			$464,000	✓	✓	✓	✓	✓
64	Belair Frontage Rd/Park West Dr	Jimmie Dyess Pkwy				72 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity	✓			$464,000	✓	✓	✓	✓	✓
65	I-20 EB Ramps	Jimmie Dyess Pkwy/S. Belair Rd				69 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity	✓			$464,000	✓	✓	✓	✓	✓
66	Washington Rd	Davis Rd				65 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity	✓			$464,000	✓	✓	✓	✓	✓
67	Old Evans Rd (West end in Evans)	Washington Rd				61 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity	✓			$464,000	✓	✓	✓	✓	✓
68	Baston Rd	Martinez Blvd (right in/right out only-late 2002)				60 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity	✓			$464,000	✓	✓	✓	✓	✓
69	Bobby Jones Expy	Rose Ln/Settlement Rd				58 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity	✓			$464,000	✓	✓	✓	✓	✓
70	Columbia Rd	Belair Rd				57 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity		✓		$464,000	✓	✓	✓	✓	✓
71	Washington Rd	Belair Rd				56 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity		✓		$464,000	✓	✓	✓	✓	✓
72	Washington Rd	Baston Rd				54 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity		✓		$464,000	✓	✓	✓	✓	✓
73	Baston Rd	Old Petersburg Rd				54 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity		✓		$464,000	✓	✓	✓	✓	✓
74	Evans to Locks Rd	Fury's Ferry Rd				52 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity		✓		$464,000	✓	✓	✓	✓	✓
75	Cox Rd/Owens Rd	N Belair Rd				51 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity		✓		$464,000	✓	✓	✓	✓	✓
76	Oak St N	Washington Rd				48 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity		✓		$464,000	✓	✓	✓	✓	✓
77	Columbia Rd	Flowing Wells Rd				43 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity		✓		$464,000	✓	✓	✓	✓	✓
78	Evans to Locks Rd	Washington Rd				43 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity		✓		$464,000	✓	✓	✓	✓	✓
79	Towne Center Dr	Washington Rd				40 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity		✓		$464,000	✓	✓	✓	✓	✓
80	Washington Rd	Evans to Locks Rd				37 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity		✓		$464,000	✓	✓	✓	✓	✓
81	Fury's Ferry Rd	Evans To Locks Rd				36 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity		✓		$464,000	✓	✓	✓	✓	✓
82	Flowing Wells Rd	Washington Rd				35 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity		✓		$464,000	✓	✓	✓	✓	✓
83	Country Place Ln/Fieldstone Way	Washington Rd				34 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity		✓		$464,000	✓	✓	✓	✓	✓
84	Baston Rd/Vaughn Rd	Fury's Ferry Rd				31 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity		✓		$464,000	✓	✓	✓	✓	✓

Table 9.3
Recommended Improvements

Project Ref. No.	Facility	Segment Limits From	Segment Limits To	Existing Lane Configuration	Improved Lane Configuration	Notes/Comments	Program	Project	Need	Anticipated Benefit	Implementation Near	Implementation Mid	Implementation Long	Estimated Cost	Potential Funding Source Federal	State	County	Local	Private
85	Hereford Farm Rd/Towne Center Dr	N Belair Rd				30 crashes	Recommended	Intersection Improvements	Safety	Improved Safety and Capacity		✓		$464,000	✓	✓	✓	✓	✓
Bridge Improvements																			
86	SR 232	Crawford Creek	4.4 mi NE of Grovetown			36.54 sufficiency rating	STIP	Replace Bridge	Deficient Bridge	Improved Safety and Operation	✓			$2,067,000		✓	✓	✓	
87	SR 223	Kiokee Creek	5.8 mi NW of Harlem			51.53 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improved Safety and Operation		✓		$1,006,000		✓	✓	✓	
88	SR 47	Keg Creek	6.9 mi N of Appling			54.17 sufficiency rating	STIP	Replace Bridge	Deficient Bridge	Improved Safety and Operation	✓			$1,136,000		✓	✓	✓	
89	CR 576 / Louisville Rd.	I-20	5.2 mi NW of Grovetown			54.65 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improved Safety and Operation		✓		$2,378,000		✓	✓	✓	
90	SR 232	Walton Branch	4 mi NE of Grovetown			56.34 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improved Safety and Operation		✓		$473,000		✓	✓	✓	
91	CR 253/Baker Place Rd	I-20	3.7 mi NW of Grovetown			59.03 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improved Safety and Operation		✓		$1,880,000		✓	✓	✓	
92	SR 223	Uchee Creek	2.2 mi NW of Grovetown			61.44 sufficiency rating	STIP	Replace Bridge	Deficient Bridge	Improved Safety and Operation	✓			$1,136,000		✓	✓	✓	
93	CR 238/Chamblin Rd	I-20	2.4 mi NW of Grovetown			62.09 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improved Safety and Operation		✓		$2,033,000		✓	✓	✓	
94	N Belair Rd	CSX Railroad	SW of SR 28			75.39 sufficiency rating	Work Program	Replace Bridge	Deficient Bridge	Improved Safety and Operation		✓		$1,003,000		✓	✓	✓	
95	Parham Rd	CSX Railroad	SR 10/US 78				STIP	Replace Bridge	Deficient Bridge	Improved Safety and Operation	✓			$1,000,000		✓	✓	✓	
Bicycle & Pedestrian Improvements																			
96	Columbia Rd	Belair Rd	Lewiston Rd			18,790 linear feet	ARTS Bike-Ped Plan	Rural Bike Lane	Bike/Ped Facilities	Enhanced Multimodal System			✓	$2,271,919	✓	✓	✓	✓	✓
97	Ronald Reagan Dr	Washington Rd	N Belair Rd			2,131 linear feet	ARTS Bike-Ped Plan	Urban Bike Lane	Bike/Ped Facilities	Enhanced Multimodal System		✓		$292,694	✓	✓	✓	✓	✓
98	Cox Rd/Gibbs Rd	Washington Rd	Hereford Farm Rd			7,450 linear feet	ARTS Bike-Ped Plan	Urban Bike Lane	Bike/Ped Facilities	Enhanced Multimodal System			✓	$1,023,261	✓	✓	✓	✓	✓
99	Wrightsboro Rd	S Belair Rd	Study Area Boundary			33,730 linear feet	ARTS Bike-Ped Plan	Share the Road	Bike/Ped Facilities	Enhanced Multimodal System			✓	$6,708	✓	✓	✓	✓	✓
100	Columbia Rd/SR 232	Hereford Farm Rd	Study Area Boundary			35,965 linear feet	ARTS Bike-Ped Plan	Share the Road	Bike/Ped Facilities	Enhanced Multimodal System			✓	$7,152	✓	✓	✓	✓	✓
101	Belair Rd/SR 383	Washington Rd	Wrightsboro Rd			25,403 linear feet	ARTS Bike-Ped Plan	Restriping	Bike/Ped Facilities	Enhanced Multimodal System			✓	$42,944	✓	✓	✓	✓	✓
102	William Few Pkwy	Columbia Rd	Washington Rd			27,826 linear feet	ARTS Bike-Ped Plan	Rural Bike Lane	Bike/Ped Facilities	Enhanced Multimodal System			✓	$3,364,472	✓	✓	✓	✓	✓
103	Old Petersburg Rd/CR 145	Washington Rd/Old Evans Rd	Riverwatch Pkwy			12,985 linear feet	ARTS Bike-Ped Plan	Urban Bike Lane	Bike/Ped Facilities	Enhanced Multimodal System		✓		$1,783,496	✓	✓	✓	✓	✓
104	Washington Rd/Old Evans Rd/CR 176	Belair Rd	Old Petersburg Rd			6,496 linear feet	ARTS Bike-Ped Plan	Urban Bike Lane	Bike/Ped Facilities	Enhanced Multimodal System		✓		$892,229	✓	✓	✓	✓	✓
105	Baston Rd	Old Petersburg Rd	Fury's Ferry Rd			3,873 linear feet	ARTS Bike-Ped Plan	Restriping	Bike/Ped Facilities	Enhanced Multimodal System			✓	$6,547	✓	✓	✓	✓	✓
106	N. Belair Rd/CR 580	Washington Rd	Fury's Ferry Rd			13,078 linear feet	ARTS Bike-Ped Plan	Restriping	Bike/Ped Facilities	Enhanced Multimodal System		✓		$22,108	✓	✓	✓	✓	✓
107	Hardy McManus Rd	Washington Rd	Fury's Ferry Rd			20,272 linear feet	ARTS Bike-Ped Plan	Rural Bike Lane	Bike/Ped Facilities	Enhanced Multimodal System		✓		$2,451,109	✓	✓	✓	✓	✓
108	Flowing Wells Rd	Columbia Rd	Wheeler Rd			7,408 linear feet	ARTS Bike-Ped Plan	Urban Bike Lane	Bike/Ped Facilities	Enhanced Multimodal System			✓	$1,017,493	✓	✓	✓	✓	✓
109	Wheeler Rd	S Belair Rd	Flowing Wells Rd			7,290 linear feet	ARTS Bike-Ped Plan	Share the Road	Bike/Ped Facilities	Enhanced Multimodal System			✓	$1,450	✓	✓	✓	✓	✓
110	Washington Rd/SR 104: Phase III	Study Area Boundary	Cumberland Dr			14,866 linear feet	ARTS Bike-Ped Plan	Rural Bike Lane	Bike/Ped Facilities	Enhanced Multimodal System			✓	$1,797,464	✓	✓	✓	✓	✓
111	Washington Rd/SR 104: Phase II	Cumberland Dr	Silver Lake Dr			12,936 linear feet	ARTS Bike-Ped Plan	Rural Bike Lane	Bike/Ped Facilities	Enhanced Multimodal System		✓		$1,564,106	✓	✓	✓	✓	✓
112	Washington Rd/SR 104: Phase I	Silver Lake Dr	Ronald Reagan			10,402 linear feet	ARTS Bike-Ped Plan	Rural Bike Lane	Bike/Ped Facilities	Enhanced Multimodal System		✓		$1,257,717	✓	✓	✓	✓	✓
113	SR 388/Lewiston Rd	Wrightsboro Rd	Columbia Rd			29,884 linear feet	ARTS Bike-Ped Plan	Rural Bike Lane	Bike/Ped Facilities	Enhanced Multimodal System			✓	$3,613,307	✓	✓	✓	✓	✓
114	Hereford Farm Rd	Columbia Rd	Belair Rd			19,586 linear feet	ARTS Bike-Ped Plan	Rural Bike Lane	Bike/Ped Facilities	Enhanced Multimodal System		✓		$2,368,164	✓	✓	✓	✓	✓
115	Evans-To-Locks Rd: Phase II	existing facility	Blue Ridge Dr			7,119 linear feet	ARTS Bike-Ped Plan	Multiuse	Bike/Ped Facilities	Enhanced Multimodal System		✓		$414,662	✓	✓	✓	✓	✓
116	Evans-To-Locks Rd: Phase III	Blue Ridge Dr	Belair Rd			7,647 linear feet	ARTS Bike-Ped Plan	Multiuse	Bike/Ped Facilities	Enhanced Multimodal System		✓		$445,416	✓	✓	✓	✓	✓
117	Fury's Ferry Rd/CR 92: Phase II	Hardy McManus Rd	Blackstone Camp Rd			12,069 linear feet	ARTS Bike-Ped Plan	Urban Bike Lane	Bike/Ped Facilities	Enhanced Multimodal System			✓	$1,657,683	✓	✓	✓	✓	✓
118	Fury's Ferry Rd/CR 92: Phase III	Hardy McManus Rd	County Line/Study Area Boundary			6,959 linear feet	ARTS Bike-Ped Plan	Rural Bike Lane	Bike/Ped Facilities	Enhanced Multimodal System			✓	$841,420	✓	✓	✓	✓	✓
119	Columbia Rd	Belair Rd	Flowing Wells Rd			10,938 linear feet	ARTS Bike-Ped Plan	Urban Bike Lane	Bike/Ped Facilities	Enhanced Multimodal System			✓	$1,502,340	✓	✓	✓	✓	✓
120	Pleasant Home Rd/CR 177	Flowing Wells Rd	Washington Rd			16,534 linear feet	ARTS Bike-Ped Plan	Restriping	Bike/Ped Facilities	Enhanced Multimodal System			✓	$27,951	✓	✓	✓	✓	✓
121	Walton Way Extension/Davis	Skinner Mill Rd	Washington Rd			8,025 linear feet	ARTS Bike-Ped Plan	Restriping	Bike/Ped Facilities	Enhanced Multimodal System		✓		$13,566	✓	✓	✓	✓	✓
122	Miscellaneous Improvements	105,600 linear feet				105,600 linear feet	Recommended	Bike/Ped	Bike/Ped Facilities	Enhanced Multimodal System	✓			$3,780,000	✓	✓	✓	✓	✓
123	Miscellaneous Improvements	132,000 linear feet				132,000 linear feet	Recommended	Bike/Ped	Bike/Ped Facilities	Enhanced Multimodal System		✓		$4,725,000	✓	✓	✓	✓	✓
124	Miscellaneous Improvements	343,200 linear feet				343,200 linear feet	Recommended	Bike/Ped	Bike/Ped Facilities	Enhanced Multimodal System			✓	$12,285,000	✓	✓	✓	✓	✓
Transit Improvements																			
125	Washington Rd	Greenbrier Town Center					Recommended	Park & Ride Lot	Capacity Deficiency	Commute Options to Augusta		✓		$100,000	✓	✓	✓		
126	I-20	Appling Rd					Recommended	Park & Ride Lot	Capacity Deficiency	Commute Options to Augusta			✓	$100,000	✓	✓	✓		
127	Wrightsboro Rd	Grovetown					Recommended	Park & Ride Lot	Capacity Deficiency	Commute Options to Augusta			✓	$100,000	✓	✓	✓		

Notes: 1. Costs do not include right of way acquisition
2. Intersection Improvements listed include all intersections with more than 10 crashes per year. Many of these locations may not warrant improvements, however additional study is required to make this determination. Costs were included as placeholders until additional studies are warranted or completed.
2. The cost for safety deficient intersections was calculated using the average cost for an intersection programmed in the SPLOST
3. Bicycle and Pedestrian cost estimates were obtained from the ARTS Bike/Ped Plan.
4. Cost for Park and Ride Facility is a placeholder until detailed studies are completed.


Lincoln County
South Carolina
Columbia County
McDuffie County
Augusta
Richmond County
Grovetown
Harlem
SR 150
SR 104
US 221
SR 232
I-20
SR 223
US 78
N
NOT TO SCALE
Legend
Bridge Improvement
Park & Ride Facility
Capacity Improvement
TDM/TSM

9.4 Environmental Justice Considerations

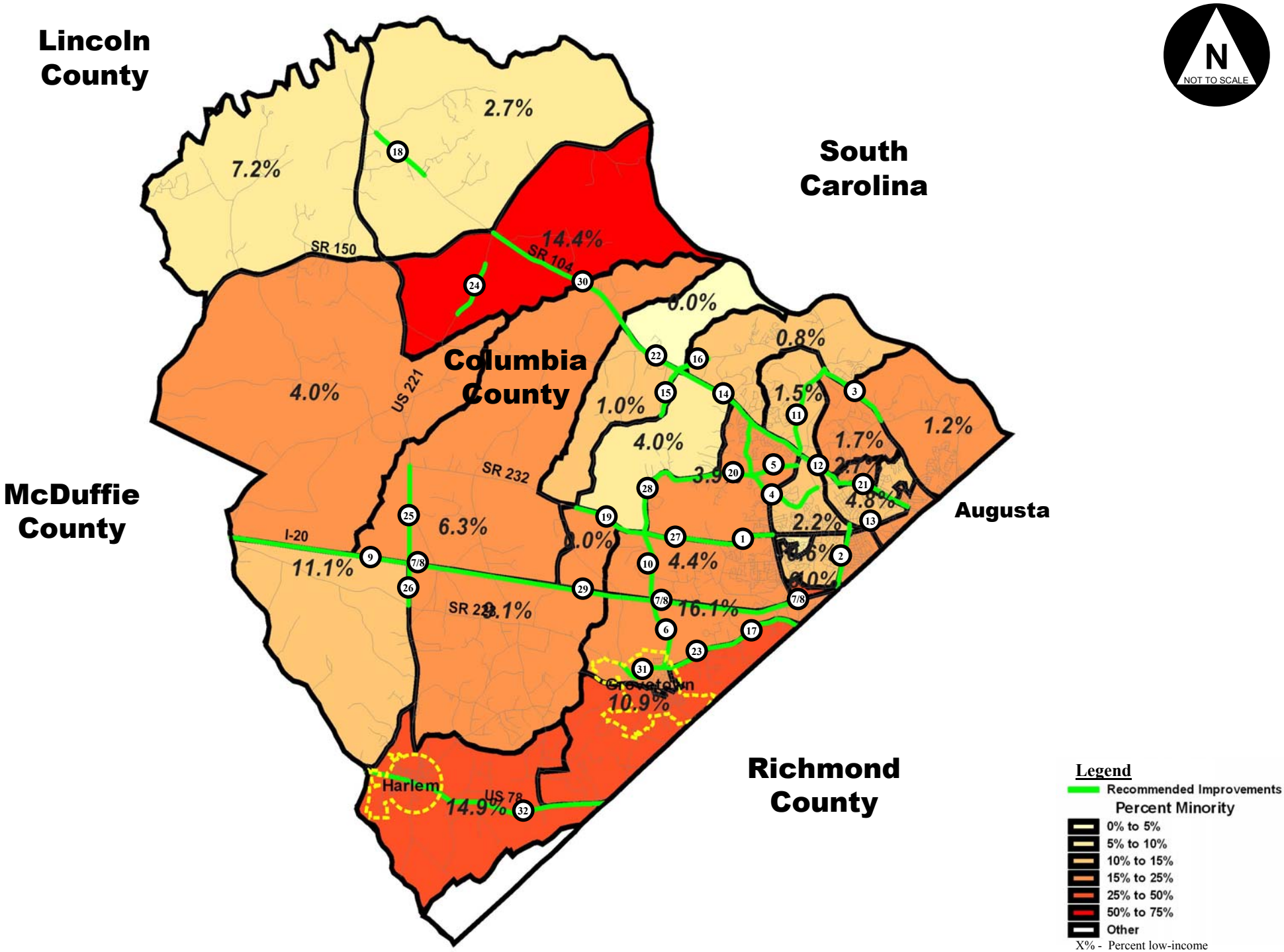
Another key point of concern in evaluating proposed transportation improvements is environmental justice. This ensures that areas with high concentrations of low-income or minority populations are not adversely impacted by transportation improvements. The recommended improvements will improve safety, mobility and access for all users on a countywide basis. However, the following capacity enhancement projects could have potential impacts to these populations:

- Project #17 – Wrightsboro Road (from Reynolds Road to Richmond County)
- Project #23 – Wrightsboro Road (from Horizon South Parkway to Reynolds Road)
- Project #24 – SR 47 NB (from S of Washington Road to North of Yelton Road)
- Project #30 – Washington Road (from Scotts Ferry Road to Old Washington Road)
- Project #32 – US 78 (from Harlem to Wrightsboro Road)

These projects include the need for roadway widening and the possibility of additional right of way. Review of these projects acknowledges that they are anticipated to benefit and not disproportionately impact the surrounding EJ areas. Additional projects adopted to benefit the EJ communities include: bicycle and pedestrian improvements in the towns of Harlem and Grovetown; transit park and ride lots in Grovetown and along Washington Road north of the Greenbrier Town Center; an express bus along the I-20 corridor, Washington Road corridor and Wrightsboro corridor; and, numerous safety and capacity enhancements throughout the study area.

In addition to the technical analysis documented above, outreach activities were conducted throughout the course of the study to facilitate input and dialogue with EJ communities. In particular, information was distributed in these areas documenting study activities and workshops and community leaders in the area were conducted throughout the study to facilitate dialogue and exchange of information.

Figure 9.4 shows the recommended projects on the environmental justice map.



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Environmental Justice Evaluation

Columbia County 2025 Long Range Transportation Plan